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IN THE

Supreme Court of the United States

KSR INTERNATIONAL CO.,

Petitioner,

v.

TELEFLEX INC. and
TECHNOLOGY HOLDING CO.,

Respondents.

ON WRIT OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

BRIEF OF BUSINESS AND LAW PROFESSORS AS *AMICI CURIAE* IN SUPPORT OF THE RESPONDENTS

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CASES:

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Anderson's-Black Rock v. Pavement Salvage, Co., 396 U.S. 57 (1969) 4, 16-17

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Baltimore & Ohio R.R. Co. v. Aberdeen & Rockfish R.R. Co., 393 U.S. 87 (1968)..... 11

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Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141 (1989) 23

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Champion Spark Plug Co. v. Gyromat Corp., 603 F.2d 361 (2d Cir. 1979) 18

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Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc., 424 F.3d 1293 (Fed. Cir. 2005)..... 9

Custom Accessories, Inc., v. Jeffery-Allan Indus., Inc., 807 F.2d 955 (Fed. Cir. 1986)..... 5, 6

Dann v. Johnston, 425 U.S. 219 (1976) 19, 26

Dembiczak, In re, 175 F.3d 994 (Fed. Cir. 1999)..... 6, 11

Dickinson v. Zurko, 527 U.S. 150 (1999)..... 9, 12-13

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CASES – CONTINUED:

DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co., No. 06-1088 (Fed. Cir. Oct. 3, 2006) 5, 6

Ecolochem, Inc. v. S. Cal. Edison Co., 227 F.3d 1361 (Fed. Cir. 2000) 9

Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722 (2002) 13, 27

Graham v. Conner, 490 U.S. 386 (1989) 22

Graham v. John Deere, 383 U.S. 1 (1966) ..... *passium*

Great Atlantic Tea & Pacific Tea Co. v. Supermarket Equip. Corp., 340 U.S. 147 (1950) 14-15

Harris, In re, 409 F.3d 1339 (Fed. Cir. 2005) 7

Hazeltine Research v. Brenner, 383 U.S. 252 (1965) 5

Hewlett-Packard Co., v. Mustek Sys., 340 F.3d 1314 (Fed. Cir. 2003) 7

Hotchkiss v. Greenwood, 52 U.S. (11 How.) 248 (1850) 13-14

Jones, In re, 958 F.2d 347 (Fed.Cir.1992) 6

Kahn, In re, 441 F.3d 977 (Fed. Cir. 2006)... 5, 6, 9, 11, 23

Kotzab, In re, 217 F.3d 1365 (Fed. Cir. 2000) 11

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Loom Co. v. Higgins, 105 U.S. 580 (1882) 22

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CASES – CONTINUED:

Lyon v. Bausch & Lomb Optical Co., 224 F.2d 530 (2d Cir. 1955) 14

Markman v. Westview Instruments, 517 U.S. 370 (1996)..... 10

Monroe Auto Equip. Co. v. Heckethorn Mfg. & Supply Co., 332 F.2d 406 (6th Cir. 1964)..... 21

Motorola, Inc. v. Interdigital Tech. Corp., 121 F.3d 1461 (Fed. Cir. 1997)..... 6

Mott Corp. v. Sunflower Indus., Inc., 314 F.2d 872 (10th Cir. 1963)..... 14

Nilssen, In re, 851 F.2d 1401 (Fed. Cir. 1988)..... 6

Oddzon Prods. Inc., v. Just Toys, Inc., 122 F.3d 1396 (Fed. Cir. 1997) 5

Para-Ordnance Mfg., Inc. v. SGS Importers Int'l, Inc., 73 F.3d 1085 (Fed. Cir. 1995)..... 5, 6

Peterson, In re, 315 F.3d 1325 (Fed. Cir. 2003)..... 7

Princeton Biochemicals, Inc. v. Beckman Coulter, Inc., 411 F.3d 1332 (Fed. Cir. 2005)..... 9

Printz v. United States, 521 U.S. 898 (1977) 16

Pro-Mold & Tool Co., Inc. v. Great Lakes Plastics, Inc., 75 F.3d 1568 (Fed. Cir. 1996)..... 6

R.M. Palmer Co. v. Luden's, Inc., 236 F.2d 496 (3d Cir. 1956)..... 14

Reiner v. I. Leon Co., 285 F.2d 5011 (2d Cir. 1960) 14

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Rengo Co. v. Molins Mach. Co., 657 F.2d 535 (3rd Cir. 1981) 18

Republic Indus., Inc., v. Schlage Lock Co., 592 F.2d 963 (7th Cir. 1979) 17-18

Rinehart, In re, 531 F.2d 1048 (C.C.P.A.1976) 6

Rouffet, In re, 149 F.3d 1350 (Fed. Cir. 1998) 5, 6, 11

S.E.C. v. Edwards, 540 U.S. 389 (2004) 16

Safety Car Heating & Lighting Co. v. General Elec. Co., 155 F.2d 937 (2d Cir. 1946) 15

Sakraida v. Ag. Pro, Inc., 425 U.S. 282 (1976) 4, 16-17

Strickland v. Washington, 466 U.S. 668 (1984) 22

U.S. Bancorp Mortgage Co. v. Bonner Mall Partnership, 513 U.S. 18 (1994) 16

United States v. Adams, 383 U.S. 39 (1967) 4, 14

Valmet Paper Mach., Inc., v. Beloit Corp., 105 F.3d 1409 (Fed. Cir. 1997) 7

UNITED STATES CONSTITUTION, STATUTES AND LEGISLATIVE MATERIALS:

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35 U.S.C. § 103 ..... *passium*

35 U.S.C. § 282 25

35 U.S.C.A. 1 (1954) 15

H.R. Rep. No. 82-1923 (1952) 26

S. Rep. No. 82-1979 (1952) 26

Page

ADDITIONAL SOURCES:

Christopher A. Cotropia, *Patent Law Viewed Through an Evidentiary Lens: The "Suggestion Test" as a Rule of Evidence*, 2006 BYU L. Rev. ___ (forthcoming 2006), available at http://ssrn.com/abstract=893965 ..... 12, 24

Christopher A. Cotropia, *Nonobviousness and the Federal Circuit: An Empirical Analysis of Recent Case Law*, 82 Notre Dame L. Rev. __ (forthcoming 2007), available at http://ssrn.com/abstract=933192 28-29

C. Marshall Dann, *Examination of Claims for Patentability Under 35 U.S.C. 103*, 949 U.S. Pat. & Trademark Off. Gazette 3 (1976) 17-18

Baruch Fischoff, *For Those Condemned to Study the Past: Heuristics and Biases in Hindsight, in Judgment Under Uncertainty: Heuristics and Biases* (Kahneman et al. eds., 1982) 22

F. Scott Kieff, *How Ordinary Judges and Juries Decide the Seemingly Complex Technological Questions of Patentability over the Prior Art, in Perspectives on Properties of the Human Genome Project* (Kieff ed., Academic Press 2003) 30

F. Scott Kieff, *The Case for Registering Patents and the Law and Economics of Present Patent-Obtaining Rules*, 45 B.C. L. Rev. 55 (2003) 27

Page

ADDITIONAL SOURCES – CONTINUED:

Gregory Mandel, *Patently Non-Obvious: Empirical Demonstration that the Hindsight Bias Renders Patent Decisions Irrational*, 67 Ohio St. L.J. ___ (forthcoming 2006), available at http://ssrn.com/abstract=871684 22

Gregory Mandel, *Patently Non-Obvious II: Experimental Study on the Hindsight Issue before the Supreme Court*, 9 Yale J. of L. & Tech. ___ (forthcoming 2006), available at http://ssrn.com/abstract_id=928662 ..... 21, 24

Robert Merges and John Duffy, *Patent Law and Policy: Cases and Materials* (3d ed. 2002) 5

Sean M. McEldowney, *New Insights on the "Death" of Obviousness: An Empirical Study of District Court Obviousness Opinions*, 2006 Stan. Tech. L. Rev. 4. 24

Lee Petherbridge and R. Polk Wagner, *The Federal Circuit and Patentability: An Empirical Assessment of the Law of Obviousness*, 85 Tex. L. Rev. __ (forthcoming 2007) available at http://ssrn.com/abstract=923309 ..... 7, 9, 28

Giles S. Rich, *Laying the Ghost of the "Invention" Requirement*, 1 Am. Pat. L. Ass'n Q. J. 26 (1972)..... 15

Rene D. Tegtmeyer, *Commercial Success and Other Considerations Bearing on Obviousness*, 973 Official Gazette 34 (1978)..... 18

INTEREST OF *AMICI CURIAE*

Amici are scholars at American business and law schools who teach, write about, or have an interest in patents and intellectual property law. Amici have no stake in the outcome of this case.[1] We are, however, interested in assisting this Court to interpret the law in a way that is both consistent with the intent of Congress and that best promotes the development and disclosure of new and non-obvious inventions. A list of amici is appended to the signature page. Both petitioner and respondents have filed blanket consents to the filing of amicus briefs.

SUMMARY OF ARGUMENT

The "teaching, suggestion, or motivation to combine" analysis, developed pursuant to the Court's decisions interpreting section 103 of the Patent Act, has been badly mischaracterized, misunderstood, and misread by Petitioner and supporting amici. In this brief, we directly address their main contentions and seek to clarify the policy, premise, and jurisprudence that underlies this well-established analytic framework. We first refute the claims, made especially by the Solicitor General, that the "teaching, suggestion or motivation to combine" analysis is rigid, narrow, and ignores relevant information. To the contrary, this approach is firmly grounded in the Court's interpretation of the Patent Act, and implements Graham's requirement for detailed factual analysis of the intellectual and technological context of an invention. Second, we demonstrate that the Court of Appeals

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[1] Pursuant to Rule 37.6, amici represent that this brief was not authored in whole or in part by counsel for any party, and that no person or entity other than amici and their respective educational institutions has made a monetary contribution to the preparation or submission of this brief.

jurisprudence is fully consistent with the Court's post-Graham decisions in this area. And third, we argue that that the Petitioners and supporting amici fail to meaningfully address the Court's admonishment that the nonobviousness analysis must address the very real problem of hindsight bias that is inherent in the obviousness determination, which lies at the core of the patent law. Indeed, we show that the Court of Appeals' approach is significantly better than any of the alternatives proposed in this case, most of which either ignore the problem or actually increase the likelihood of error, confusion, and unpredictability in nonobviousness decisions. We conclude that while the analysis is imperfect, and aspects of the Court of Appeals' caselaw should be clarified, this approach provides the best available analytic framework for implementing the statutory and constitutional goals of the nonobviousness requirement.

ARGUMENT

I. THE "TEACHING, SUGGESTION, OR MOTIVATION TO COMBINE" ANALYSIS IS A FLEXIBLE, TECHNOLOGICALLY-FOCUSED MEANS OF IMPLEMENTING THE *GRAHAM* FRAMEWORK

One of the misunderstandings of the law perpetuated by several briefs filed in this case is that the "teaching, suggestion, or motivation to combine" ("TSM") test is a rigid and restrictive formulation that ignores important information concerning the obviousness of an invention.[2] Instead, as we demonstrate below, the TSM test, properly understood, embraces precisely the information outlined by this Court in *Graham v. John Deere*, 383 U.S. 1 (1966). There is nothing in the premise of the TSM approach—and very little in the

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[2] *See, e.g.*, Br. of U.S., at 17-20; Br. of Intell. Prop. L. Prof., at 10-12.

Court of Appeals' articulation of that doctrine—that supports the view that the analysis ignores relevant factual information. Indeed, we suggest that most of the Court of Appeals' cases cited by Petitioner and supporting amici in this case are misread as requiring a rigid or narrow analysis, when in fact they support a broader understanding of that court's doctrinal approach. Finally, we note that if the varying articulations of this approach in the Court of Appeals leads to confusion or suggests a lack of flexibility, then this Court should not abandon the test, but instead take the opportunity to clarify that the TSM analysis—as a component of the framework laid down in *Graham*—embraces all relevant factual information underlying the legal inquiry into obviousness under 35 U.S.C. § 103.

A. The TSM Test is Focused on the Key Aspect of the Graham *Inquiry*

The Patent Act's restriction against patenting inventions that "would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains" imposes a defined level of inventiveness as the hurdle for patentability. *See* 35 U.S.C. § 103 (2004), *Graham*, 383 U.S. at 14. In *Graham*, this Court outlined the three core factual inquiries underlying this legal question: the level of ordinary skill in the art; the scope and content of the prior art; and the differences between the prior art and the invention. *Id.* at 18.

1. The *Graham* inquiry, then, directs courts to closely analyze the intellectual context surrounding the creation of an invention. As *Graham* notes, in order to remain faithful to the language of § 103, this intensely factual inquiry is bounded in at least three dimensions: intellectually, by the ability of those of "ordinary skill" in the field; temporally, by the date of invention; and technologically, by the scope of the relevant prior art. *See* 383 U.S. at 18. Over decades of application of the *Graham* analysis to the enormous range of

subject matters embraced by the modern patent law, the courts have recognized that, given fidelity to the boundaries noted above, the key intellectual inquiry supporting § 103 is not merely whether a invention can be cobbled together from discrete components found in the prior art, but whether a person of ordinary skill would have been likely to do so at the time the invention was made. *See, e.g., United States v. Adams*, 383 U.S. 39, 51-52 (1967) ("Despite the fact that each of the elements of the Adams battery was well known in the prior art, to combine them as did Adams required that a person reasonably skilled in the prior art must ignore [the then-extant teachings of the field]"); *Anderson's-Black Rock v. Pavement Salvage, Co.*, 396 U.S. 57, 60 (1969) ("We conclude that the combination was reasonably obvious to one with ordinary skill in the art."); *Sakraida v. Ag. Pro, Inc.*, 425 U.S. 282, (1976) ("[T]his particular use of the assembly of old elements would be obvious to any person skilled in the art of mechanical application."). This is the basis of the Court of Appeals' modern TSM inquiry, which lays bare the core factual components of the *Graham* framework—to enable judicial application of the obviousness prohibition.

The premise of the TSM analysis relies on flexibility, and embraces all relevant information—subject only to the boundaries established by *Graham* and the text of § 103. As a matter of technological fact, it is clear that a teaching, suggestion, or motivation to combine references may come from any source, be it explicit and direct (such as statements in the prior art or evidence of the knowledge and skill in the field), or implicit or circumstantial (such as unstated suggestions in the prior art or the nature of the problem solved by the invention). In our view, the best reading of the Court of Appeals' doctrine reflects an adherence to this principle, as we explain more fully below.[3]

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[3] Indeed, we note that the Federal Circuit has taken the opportunity on three occasions this year to emphasize this aspect of its TSM doctrine.

2. The role of the TSM analysis in the § 103 inquiry must also be understood in context. The approach does not exist in a vacuum, but instead is a component of a flexible, technologically-sensitive approach to implementing *Graham's* mandate to investigate the intellectual context of an invention. For example, the law assumes that a person of skill in the relevant art will know of and understand all prior art references, their explicit and inherent teachings, and the various ways in which they might be combined.[4] Furthermore, the Court of Appeals has defined the scope of the relevant prior art broadly, encompassing not only art that is related to the field of the invention, but art from disparate fields that is relevant to the intellectual context.[5] Placing these doctrinal constructs next to the TSM analysis results in a framework for the technological inquiry underpinning § 103 that:

1. Sweeps in all prior art relevant to the invention;[6]

See In re Kahn, 441 F.3d 977 (Fed. Cir. 2006); *Alza Corp. v. Mylan Labs., Inc.*, No. 06-1019 (Fed. Cir. Sept. 6, 2006); *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, No. 06-1088 (Fed. Cir. Oct. 3, 2006).

[4] *See, e.g., In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998) (the law "presumes all prior art references in the field of invention are available to this hypothetical skilled artisan."); *Para-Ordnance Mfg., Inc. v. SGS Importers Int'l, Inc.*, 73 F.3d 1085, 1088-89 (Fed. Cir. 1995); *Custom Accessories, Inc., v. Jeffery-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986) ("The [PHOSITA] is presumed to be aware of all the pertinent prior art.").

[5] *See, e.g., In re Clay*, 966 F.2d 656 (Fed. Cir. 1992). *See also*, Robert Merges and John Duffy, *Patent Law and Policy: Cases and Materials* 803 (3d ed. 2002) (noting that the court's broad 'problem-solving' approach "is consistent with the actual practice and experience of inventors.")

[6] *See, e.g., Hazeltine Research v. Brenner*, 383 U.S. 252 (1965) (extending § 103 prior art to include patents applied-for, but not issued); *Oddzon Prods. Inc., v. Just Toys, Inc.*, 122 F.3d 1396 (Fed. Cir. 1997) (extending the definition of prior art under § 103 to encompass material

2. Attributes to the person of skill in the art knowledge of both the explicit and inherent teachings of the art;[7]

3. Embraces any evidence of suggestive combinations, regardless of source.[8]

It is therefore simply erroneous to understand the TSM analysis as imposing a limited, narrow, or exclusionary inquiry to the judicial determination of nonobviousness.

We do not suggest, of course, that the TSM approach is unbounded. Rather, its boundaries (intellectual, temporal, and technological, as noted above) are precisely those established by the Patent Act in section 103, and defined by this Court in *Graham* and its progeny. Thus, a suggestion to combine (like any element of the prior art) that arises after the date of invention is impermissible, as is such information that is unconnected to the intellectual or technological subject matter of the invention. These limits, however, are not those of the TSM analysis, but those established as a matter of the overall section 103 inquiry.

3. Under this conception, the TSM analysis is an important and necessary component of the overall *Graham* framework, rather than the "exclusive test for

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derived from another under § 102(f)); *In re Clay*, 966 F.2d 656 (Fed. Cir. 1992) (defining the 'analogous arts' analysis).

[7] *See, e.g., Rouffet*, 149 F.3d at 1357; *Para-Ordnance Mfg.*, 73 F.3d at 1088-89; *Custom Accessories*, 807 F.2d at 962.

[8] *See, e.g., DyStar*, No. 06-1088, (Fed. Cir. Oct. 3, 2006); *Alza Corp.*, No. 06-1019 (Fed. Cir. Sept. 6, 2006); *Kahn*, 441 F.3d 977 (Fed. Cir. 2006); *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999); *Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 1472 (Fed. Cir. 1997), *Pro-Mold & Tool Co., Inc. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573 (Fed. Cir. 1996); *In re Jones*, 958 F.2d 347, 351 (Fed. Cir. 1992); *In re Nilssen*, 851 F.2d 1401, 1403 (Fed. Cir. 1988); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 297 n. 24, (Fed. Cir. 1985); *In re Rinehart*, 531 F.2d 1048, 1054 (C.C.P.A.1976).

nonobviousness," as it is characterized by the Solicitor General's brief. *See Brief of United States*, at 16. Its utility lies in a focus on the key factual inquiry necessary to evaluate compliance with section 103—the contemporaneous learning in the field of the invention, which necessarily includes both the content of the prior art as well as the then-extant knowledge and ability of those working in the field. In many cases, especially where a single source of prior art rather than a combination of references is used to determine obviousness, the TSM analysis may not be especially useful. Properly understood, the Court of Appeals' doctrine fully reflects this understanding.[9]

We also strongly disagree with the claims about both the premise and precedent of the TSM requirement made by several briefs filed in this case. We especially note that the United States' brief appears to misunderstand or misstate aspects of the patent law. First, we have already noted the factual error in the Solicitor General's claim of exclusivity for the TSM approach. That error is, unfortunately, compounded by that brief's repeated reference to the TSM

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[9] *See, e.g., In re Harris*, 409 F.3d 1339, 1341-43 (Fed. Cir. 2005) (affirming the Board's determination of obviousness without analyzing a TSM); *Hewlett-Packard Co., v. Mustek Sys.*, 340 F.3d 1314, 1326-27 (Fed. Cir. 2003) (affirming jury verdicts relating to obviousness without addressing a TSM); *In re Peterson*, 315 F.3d 1325, 1329-30 (Fed. Cir. 2003) (affirming the Board's determination of obviousness without analyzing TSM); *Valmet Paper Mach., Inc.v, v. Beloit Corp.*, 105 F.3d 1409, 1413 (Fed. Cir. 1997) (finding an invention obvious without addressing TSM).

Indeed, a systematic study of the Federal Circuit's obviousness jurisprudence since 1990, finds that the TSM analysis is used in slightly less than half of the cases (45%), though the incidence of this analysis has been increasing markedly. *See* Lee Petherbridge and R. Polk Wagner, *The Federal Circuit and Patentability: An Empirical Assessment of the Law of Obviousness*, 85 Tex. L. Rev. __ (forthcoming 2007) at 5, 47-48, available at http://ssrn.com/abstract=923309.

analysis as being rigid and inflexible (a rhetorical flourish shared by other briefs). As explained at length above, this characterization of the boundaries of the TSM analysis reflects a fundamental misunderstanding of this Court's *Graham* framework, which is itself faithful to the language of section 103. Indeed, the Solicitor General's disapproval of the Court of Appeal's requirement, *see Brief of United States* at 18, 19, that evidentiary showings be made in connection with the obviousness analysis speaks to a desire for this Court to revisit *Graham's* interpretation of the Patent Act, not an indictment of the Court of Appeal's doctrine. *See Graham*, 383 U.S. at 18 (noting the evidentiary underpinnings of nonobviousness). Likewise puzzling is the Solicitor General's unsupported conjecture that "the factual showing that [the TSM analysis] requires may be difficult or impossible to make[.]" *See Brief of United States at 19.* If, indeed, a combination of prior art elements would be "readily apparent" to those of ordinary skill in the art, then TSM explicitly provides for consideration of this evidence pursuant to its "knowledge of a person of ordinary skill in the art" prong—and the process by which one might bring this information to courts' attention (affidavits, witness testimony, etc.) are certainly no mystery. And if the Solicitor General's concern is based on a perceived difficulty for the USPTO in accessing non-textual sources in order to demonstrate a suggestion to combine, then this, once again, reflects a misunderstanding of the TSM analysis, which encompasses the appropriate application of the USPTO's technical expertise.[10] As we note below, it may well be that

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[10] Indeed, even in those cases highlighted by petitioner and amici as demonstrating the harmful effects of the TSM analysis on the USPTO, the Court of Appeals has made crystal clear that agency technical expertise, if properly placed in the record of the proceedings, is an appropriate source for a TSM analysis. *See, e.g., In re Lee*, 277 F.3d 1338, 1344 (Fed. Cir. 2002).

the Federal Circuit in the past has been too reluctant to credit agency expertise in these matters. *See, e.g., Dickinson v. Zurko*, 527 U.S. 150, 164-65 (1999) (holding that the Federal Circuit must grant additional deference to USPTO fact-finding). This concern, however, is easily addressed by the Court in this case, and provides no sound reason to abandon the doctrine.

In addition, the Solicitor General's concern that in rapidly-developing fields those who seek patent protection early will be rewarded with patents reflects either a fundamental misunderstanding concerning the patent system—which does indeed reward those who innovate early in a technology's development—or a misapprehension as to the legal rules of the nonobviousness requirement. If the application of existing knowledge to a new field is indeed embraced by the contemporaneous knowledge of those of skill in the art, then current doctrine would plainly disallow patentability.[11] If the argument is instead that the Patent and

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We also note that a recent analysis of the Court of Appeals jurisprudence in this area at least suggests that the Solicitor General's concerns of a differential effect at the USPTO are unfounded; the agency appears to fare little differently than the district courts on appeals relating to obviousness analyses. *See* Petherbridge & Wagner, *supra*, at 36, 39-40 (reporting that the USPTO's affirmance rate—which averaged 64.1% in these cases—climbed throughout the duration of the study, even as the application of TSM increased).

[11] *See, e.g., Kahn*, 441 F.3d at 988; *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1323 (Fed. Cir. 2005) ("One of ordinary skill in the art need not see the identical problem addressed in a prior art reference to be motivated to apply its teachings."); *Princeton Biochemicals, Inc. v. Beckman Coulter, Inc.*, 411 F.3d 1332, 1337 (Fed. Cir. 2005) ("[Would] an artisan of ordinary skill in the art at the time of the invention, confronted by the same problems as the inventor and with no knowledge of the claimed invention, [ ] have selected the various elements from the prior art and combined them in the manner claimed."); *Ecolochem, Inc. v. S. Cal. Edison Co.*, 227 F.3d 1361, 1372 (Fed. Cir. 2000); *In re Beattie*, 974 F.2d 1309, 1312 (Fed. Cir.

Trademark Office has in the past been slow to marshal evidence against patentability in developing fields, then this may be correct, but we submit that this logistical problem is not unique to the TSM inquiry, but instead implicates all analyses under §§ 102 and 103—each of which requires the USPTO to apply information produced externally, by third parties, to evaluate patentability. Clearly, the beneficial operation of the patent system depends upon the application of the best information relevant to patentability at the right time; but this administrative concern is best attacked directly, rather than by changing the factual inquiry required by § 103.[12]

B. Most Court of Appeals Cases Cited in Opposition to the TSM Analysis are Misread

Among the benefits the TSM analysis provides to the nonobviousness framework is that it allows reviewability of such decisions on appeal to the Federal Circuit, a concern that this Court has noted as having important implications for the stability and predictability of the patent system. *See Markman, v. Westview Instruments.*, 517 U.S. 370, 390-91 (1996). This role for the TSM analysis is of particular import, of course, in the context of the Federal Circuit's role in evaluating the decision-making of the USPTO, where important rights of prospective patentees can be extinguished by agency mistake. As such, we believe that several of the Court of Appeals decisions discussed by petitioner and supporting amici are misunderstood as requiring an explicit reference to a teaching, suggestion, or motivation to combine—when a better reading suggests that these cases

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1992) ("[T]he law does not require that the references be combined for the reasons contemplated by the inventor.").

[12] Again, the Federal Circuit may have been too reluctant to defer to technological expertise of the USPTO. This problem, however, goes to the implementation of obviousness analysis, not its content. And it is also easily corrected by this Court.

reflect the Court of Appeals in its administrative oversight role. For example, in *In re Dembiczak*, 175 F.3d 994 (Fed. Cir. 1999), the court set aside the Board of Patent Appeals and Interferences' rejection for failure to identify *any* source of a teaching, suggestion, or motivation to combine. Indeed, the court in *Dembiczak* noted that its holding was evidentiary, not legal: "Because we do not discern any finding by the Board that there was a suggestion to combine prior art references cited against the pending claims, the Board's conclusion of obviousness, as a matter of law, cannot stand." 175 F.3d at 1000. Likewise in *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002), the Federal Circuit based its holding on the failure of the USPTO to provide a meaningful record upon from which appeal can be taken. In this regard, the holding in *Lee* is straightforward: an unsupported assertion of "common sense," without more, is insufficient under the Patent Act to extinguish an inventor's right to a patent. *See id.* at 1344 (citing *Baltimore & Ohio R.R. Co. v. Aberdeen & Rockfish R.R. Co.*, 393 U.S. 87 (1968)). And yet as in *Dembizcak*, the Court of Appeals noted in *Lee* that such knowledge, if appropriately linked to the understandings of one of ordinary skill in the art, would likely have been sufficient. *See* 277 F.3d. at 1345. *See also In re Kahn*, 441 F.3d 977, 989 (Fed. Cir. 2006).

We think it is thus no coincidence that many of the cases cited by the petitioner and supporting amici as supporting a too-narrow or too-rigid understanding of the TSM analysis have a similar procedural posture.[13] Systematic evaluations of the Court of Appeals' caselaw shows, however, that when the USPTO or alleged infringer provides evidence of

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[13] *See, e.g., In re Kotzab*, 217 F.3d 1365 (Fed. Cir. 2000); *In re Rouffet*, 149 F.3d 1350 (Fed. Cir. 1998).

obviousness, the Federal Circuit considers it.[14] It may well be that the Court of Appeals has not been as clear as it could be in explaining its reasoning in these cases. Properly understood, however, these cases do not stand for a TSM analysis that is as narrow and rigid as that attributed to them by the petitioner and supporting amici.

C. *If the Court of Appeals has Implemented the Analysis Incorrectly, then this Court Should Clarify the Doctrine Rather than Abandon It*

Although, as we've argued above, there is nothing in the premise of the TSM analysis that supports an overly narrow, excessively rigid understanding of the Court of Appeals' doctrine, we recognize that the language used in some opinions from that court might lead some to find the test either unduly rigid or inconsistent. Likewise, in our view, the Federal Circuit has perhaps been too reluctant to credit the technological expertise of the USPTO in evaluating the *Graham* factors. These concerns, however, fall far short of a rationale for jettisoning the basic TSM approach—and with it three decades of stable doctrinal development. (As well as the doctrine's comparative advantages, discussed in Section III below.) Instead, this case provides this Court a ready opportunity to address these concerns. Specifically, we suggest that this Court clarify that there are no exclusions—other than the limits inherent in the factual components of the section 103 analysis—for the source of a teaching, suggestion or motivation to combine. Second, we suggest that this Court reiterate the holding of *Dickinson v. Zurko*,

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[14] *See* Christopher A. Cotropia, *Patent Law Viewed Through an Evidentiary Lens: The "Suggestion Test" as a Rule of Evidence*, 2006 BYU L. Rev. ___ (forthcoming 2006), available at http://ssrn.com/abstract=893965, at 32-42 (examining three years of Federal Circuit obviousness jurisprudence and concluding that in all cases the court considers all evidence of obviousness as long as it meets evidentiary standards).

emphasizing the USPTO's statutorily-defined technological expertise and the resultant deferential review of its fact-finding on appeal. 527 U.S. 150, 164-65. These changes would address all of the meritorious concerns of the petitioner and supporting amici, without causing radical changes in the settled expectations of millions of patentees, prospective and otherwise. See *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 739 (2002) ("[C]ourts must be cautious before adopting changes that disrupt the settled expectations of the inventing community.")

II. THE COURT OF APPEALS' JURISPRUDENCE IS CONSISTENT WITH THE PATENT ACT AND THE COURT'S INTERPRETATION THEREOF

Petitioner and supporting amici claim that the Court of Appeals and its predecessor court's obviousness jurisprudence stands in conflict with the Court's precedent. This is incorrect. Both the Patent Act and the Court's precedents establish that the analytic focus of section 103 is the technological circumstances surrounding an invention, rather than any particular judicially-determined effect (such as 'synergism') of the invention. Contrary to Petitioner's argument, nothing in the Federal Circuit's more recent caselaw suggests the deprecation of the Graham approach, nor any conflict between the TSM analysis and the Court's interpretation of the Patent Act.

A. The Patent Act Clearly Establishes the Person Having Ordinary Skill in the Art as the Measure of Innovation

The legal prohibition against the patentability of obvious inventions has its origins nearly 150 years ago in *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248 (1850). In the century that followed, the courts established at least two categories of articulations and tests for the requirement. One, exemplified

by this Courts decision in *Great Atlantic Tea & Pacific Tea Co. v. Supermarket Equipment Corp.*, 340 U.S. 147, 152 (1950) ("A&P"), required that patentable inventions show a judicially-determined quantum of innovation, often described as a 'synergistic effect.' The other, established by *Hotchkiss* itself, but most prominently advocated by Judge Hand, focused on the technological state of the inventive field—how persons of skill in the art would regard the invention.

In direct response to this confusion in the caselaw, Congress made a choice in drafting the 1952 Patent Act to codify one, but not both of these approaches. This choice–to adopt the technologically-focused *Hotchkiss* approach over the judicially-focused invention and synergism approach of *A & P*–was expressly recognized by the Court in *Graham*. Indeed, the Court noted that "[t]he first sentence of [§ 103] is strongly reminiscent of the language in *Hotchkiss*."[15]

In *Adams*,[16] a companion case to *Graham*, the Court proceeded to show exactly how the § 103 approach differed in application from the synergism approach.

> It begs the question, and overlooks the holding of the Commissioner and the Court of Claims, to state merely that magnesium and cuprous chloride were individually known battery components. If such a combination is novel, *the issue is whether bringing them*

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[15] 383 U.S. at 14. The choice also had been recognized by numerous circuits. *See, e.g., Lyon v. Bausch & Lomb Optical Co.*, 224 F.2d 530 (2d Cir. 1955) (Hand, J.); *R.M. Palmer Co. v. Luden's, Inc.*, 236 F.2d 496, 499-500 (3d Cir. 1956); *Brown v. Brock*, 240 F.2d 723, 727 (4th Cir. 1957); *Reiner v. I. Leon Co*, 285 F.2d 501, 501 (2d Cir. 1960) (Hand, J.); *Mott Corp. v. Sunflower Indus., Inc.*, 314 F.2d 872, 879 (10th Cir. 1963).

[16] *United States v. Adams*, 383 U.S. 39 (1966).

> *together* as taught by Adams was obvious in the light of the prior art.[17]

Thus, as *Graham* and *Adams* make clear, the analysis under section 103 is not whether a combination of existing technologies results in a synergistic (or "inventive," or any other phrasing) effect.[18] Instead, the focus is squarely on the intellectual context of the invention: whether, given the technological circumstances at the time (i.e., the *Graham* factors), the combination would have been obvious to one of skill in the art. As we argued in Section I above, the "teaching, suggestion, or motivation to combine" ("TSM") analysis is not only consistent with this framework, but fully

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[17] *Adams*, 383 U.S. at 50 (emphasis added).

[18] Congress was straightforward in its desire to curtail the 'synergistic effect' line of cases. The official commentary to the new Act, written by P.J. Federico, then an Examiner-in-Chief at the U.S. Patent Office and one of the drafters of § 103, provided:

> While it is not believed that Congress intended any radical change in the level of invention or patentable novelty, nevertheless, it is believed that some modification was intended in the direction of moderating the extreme degrees of strictness exhibited by a number of judicial opinions over the past dozen or more years; that is, that some change of attitude more favorable to patents was hoped for.

35 U.S.C.A. 1, 22-23 (1954).

Jettisoning "synergism" makes great sense. According to the view in *A & P*, synergism required every patent to be held invalid where "two plus two have been added together, and still they make only four." 340 U.S. 152. But such a test makes no sense because "[t]he laws of physics and chemistry in accordance with which all inventions perform do not permit of the judicially imagined magic according to which 2+2=5." Giles S. Rich, *Laying the Ghost of the "Invention" Requirement*, 1 Am. Pat. L. Ass'n Q. J. 26, 44 (1972). Learned Hand explained further: "[s]ubstantially all inventions are the combination of old elements; what counts is the selection, out of all their possible permutations, of that new combination which will be serviceable." *Safety Car Heating & Lighting Co. v. General Elec. Co.*, 155 F.2d 937, 939 (2d Cir. 1946) (Hand, J.).

embraces the Patent Act's focus on technological circumstances rather than arbitrary, judicially-determined turns of phrase.

B. The Court Has Not Varied Its Approach to Section 103.

Apparently suggesting that the Court has abandoned *Graham* and *Adams*' clear-eyed focus on the person of skill in the art as the yardstick of inventiveness, Petitioners and their supporting amici make much of portions of the Court's more recent decisions in *Black Rock*[19] and *Sakraida*,[20] each of which mentions "synergism" when engaging in an analysis under § 103. But a mere recitation of the word does not, and cannot, signal a revival of the approach that was rejected by Congress and the Court. To the extent that Petitioners suggest that Anderson's *Black-Rock* and *Sakraida* establish an analysis that precludes the TSM approach, they are misreading those precedents to be inconsistent with *Graham*, *Adams*, and the Patent Act. The use of 'synergism' in the Court's most recent opinions is best understood as dicta rather than as a sea-change in the nonobviousness requirement. And as the Court has long recognized, dicta does not bind the Court, especially where it would frustrate express action by Congress.[21]

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[19] *Anderson's-Black Rock, Inc., v. Pavement Salvage Co.*, 396 U.S. 57 (1969).

[20] *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273 (1976).

[21] *Printz v. U.S.*, 521 U.S. 898, 963-4 (1977) (Stevens, J., joined by Souter, Ginsburg, and Breyer, JJ., dissenting) ("It is, of course, beyond dispute that we are not bound by the dicta of our prior opinions."). *See, also U.S. Bancorp Mortgage Co. v. Bonner Mall Partnership*, 513 U.S. 18, 24 (1994) (Scalia, J.) ("invoking our customary refusal to be bound by dicta"); *Central Va. Community College v. Katz*, 126 S.Ct. 990, 996, (2006) (Stevens, J.) ("[W]e are not bound to follow our dicta in a prior case in which the point now at issue was not fully debated."); *S.E.C. v.*

As the Patent Office Commissioner at the time, C. Marshall Dann, expressly stated in an official directive to the examining corps, both the *Black Rock* and *Sakraida* cases were decided on non-synergistic grounds:

> the Court [in *Sakraida*] and *Black Rock* went on to discuss whether the claimed combinations produced a 'new or different function' and a 'synergistic result," but pointed out that 'both of the decisions had "clearly decided whether the claimed inventions were unobvious on the basis of the three-way test in Graham.... Nowhere in its decisions in those cases does the Court state that the 'new or different function' and 'synergistic result' tests supersede a finding of unobviousness or obviousness under the *Graham* test.[22]

Simply put, the holding of those cases rest squarely on *Graham* foundations.

Both the courts and the Patent Office have recognized that Anderson's *Black Rock* and *Sakraida* do not alter the basic Graham framework. For example, the Seventh Circuit rejected a return to synergism with a similar explanation.[23]

> Neither *Sakraida* nor *Black Rock* can be cited as prescribing some other, special test for the evaluation of combination claims. Nowhere in these two decisions did the Court hold a

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Edwards, 540 U.S. 389, 396 (2004) (O'Connor, J.) ("[W]e will not bind ourselves unnecessarily to passing dictum that would frustrate Congress' intent . . . .").

[22] C. Marshall Dann, *Examination of Claims for Patentability Under 35 U.S.C. 103*, 949 U.S. Pat. & Trademark Off. Gazette 3 (1976).

[23] *Republic Indus., Inc., v. Schlage Lock Co.*, 592 F.2d 963 (7th Cir. 1979).

> synergistic effect to be a necessary condition of patentability; nor did it hold that to synergism supersedes a finding of non-obviousness under the *Graham* analysis. To the contrary, each case quoted *Graham* with approval. Each turned on whether the claimed invention was non-obvious on the basis of the three-pronged test in Graham.[24]

The Second and Third Circuits also followed suit.[25] So, too, did the Patent Office. A 1976 directive Commissioner Dann eschewed the synergism language from *Black Rock* and *Sakraida* in favor of the objective test of § 103, *Hotchkiss*, and *Graham*.[26] The Patent Office even went so far as to promulgate changes to its official examination procedures, the Manual of Patent Examining Procedure, to formally require adherence to the objective standard of § 103, *Hotchkiss*, and *Graham,* including "Commercial Success and Other Considerations Bearing on Obviousness."[27] Patent examiners were specifically ordered that "[t]he Graham v. John Deere pronouncements on the relevance of commercial success, etc. to a determination of obviousness were not negated" by *Sakraida* or *Black Rock*.[28] Examiners were further ordered to state specifically the reasons why evidence put forth by an applicant was not sufficient to overcome a rejection for obviousness.[29] Indeed, the strong efforts by

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[24] *Id.* at 969.

[25] *See, e.g., Rengo Co. v. Molins Mach. Co.*, 657 F.2d 535 (3rd Cir. 1981); *Champion Spark Plug Co. v. Gyromat Corp.*, 603 F.2d 361 (2nd Cir. 1979).

[26] Dann, *supra.*

[27] Rene D. Tegtmeyer, *Commercial Success and Other Considerations Bearing on Obviousness*, 973 Official Gazette 34 (1978).

[28] *Id.*

[29] *Id.*

Commissioner Dann to avoid the trap laid by the synergism dicta in *Black Rock* and *Sakraida* provide an important explanation for why the only other recent § 103 decision by the Court, *Dann v. Johnston*, 425 U.S. 219 (1976), fails to even mention the word synergism or its variants.

Thus, as recognized by several courts of appeals and the Patent Office, the law today requires *Graham*'s technologically-focused analysis under section 103.

C. The TSM Test is Fully Consistent with the Court's Precedents

The Court of Appeals' framework for analyzing § 103 is fully consistent with the Court's precedents precisely because it is focused on the actual technology at the time the subject matter in the patent was developed. While concerns about bad patents are legitimate, changing the standard of § 103 is not the right response. As the Court itself took pains to elaborate forty years ago in *Graham*, the ever-advancing state of the art fixes many of these problems:

> Technology, however, has advanced—and with remarkable rapidity in the last 50 years. Moreover, the ambit of applicable art in given fields of science has widened by disciplines unheard of a half century ago. It is but an evenhanded application to require that those persons granted the benefit of a patent monopoly be charged with an awareness of these changed conditions. The same is true of the less technical, but still useful arts. He who seeks to build a better mousetrap today has a long path to tread before reaching the Patent Office.[30]

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[30] *Graham*, 383 U.S. at 19.

To implement the Court's focus on the state of the art at the time of invention, the Court of Appeals has required the decision-maker to look closely at that state of the art. As set forth more fully in Section I, above, the Court of Appeal's TSM test is the tie that binds the legal test to the state of the art, and ensures that section 103 of the Patent Act accomplishes its Congressional, and Constitutional, objectives.

III. THE "TEACHING, SUGGESTION, OR MOTIVATION TO COMBINE" ANALYSIS IS THE ONLY FRAMEWORK IDENTIFIED THAT IS CONSISTENT WITH THIS COURT'S PRECEDENT AND THE PATENT ACT

Section 103 of the Patent Act establishes a demanding technological inquiry: a careful evaluation of the intellectual context of an invention at the time of its creation. Because this non-obvious determination requires evaluation of circumstances in the past (often many years past), there is a natural, well-understood "hindsight" bias that prejudices decision-makers to think an invention, once made, must have been easier than in fact it was. Hindsight, as the saying goes, is 20/20. This Court has correctly recognized that proper nonobviousness decisions require attention to the hindsight bias. The analysis of whether a "teaching, suggestion, or motivation to combine" prior art references, through its structure and evidentiary focus, directly combats the hindsight bias.

In addition, the Court has identified the desire of improving uniformity and definiteness in the nonobviousness determination. TSM's technological focus and workable framework also adds certainty into the nonobviousness inquiry. In contrast, the alternative tests offered by petitioner and some amici would enhance, not ameliorate the hindsight bias, and would introduce unnecessary complexity and vagueness into the nonobviousness analysis. Properly

understood, the Court of Appeals' TSM approach, while by no means removing all hindsight bias or creating absolute certainty, is the best of the currently available options.

A. TSM's Framework Combats Hindsight Bias While Alternatives Cater to It

The Court emphasized in *Graham* that a proper analysis of obviousness should avoid hindsight bias. 383 U.S. at 36 (noting the need to "guard against slipping into use of hindsight" when determining nonobviousness) (quoting *Monroe Auto Equip. Co. v. Heckethorn Mfg. & Supply Co.*, 332 F.2d 406, 412 (6th Cir. 1964)). And yet, the Court also recognized that the nonobviousness framework established in *Graham* did not alone solve the hindsight problem. *Id.* This insight was confirmed in a recent study of nonobviousness decision-making.[31] Among the proposed alternatives in this case, TSM best satisfies the Court's mandate to combat the hindsight bias in nonobviousness decision-making.

1. Section 103 states that a patent cannot issue when the claimed subject matter "would have been obvious at the time the invention was made." 35 U.S.C. § 103(a). The Patent Act thus requires that the decision be based on whether the invention was non-obvious in the *ex ante* world immediately prior to the invention's creation. A proper non-obvious decision must not take into account the *ex post* fact that the invention actually was achieved. But ignoring the fact of invention is easier said than done. Humans are cognitively incapable of preventing knowledge gained through hindsight (here, that the invention was achieved) from impacting their analysis of past events, as required for the proper *ex ante*

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[31] Gregory Mandel, *Patently Non-Obvious II: Experimental Study on the Hindsight Issue before the Supreme Court*, 9 Yale J. of L. & Tech. ___ (forthcoming 2006), available at http://ssrn.com/abstract_id=928662, at 15.

analysis.[32] Because of this hindsight bias, individuals routinely overestimate the *ex ante* predictability of events after they have occurred.[33] Critically for patent law, once individuals have hindsight information, they exaggerate what could have been anticipated in foresight and not only tend to view what has occurred as having been inevitable, but also as having appeared "relatively inevitable" beforehand.[34] As the Court has succinctly stated, "[n]ow that [the invention] has succeeded, it may seem very plain to any one that he could have done it as well." *Loom Co. v. Higgins*, 105 U.S. 580, 591 (1882).

Hindsight bias, if left unchecked, causes erroneous findings of obviousness. A recent study, based on actually-litigated patents, looked at the effects of hindsight bias on mock jurors and found a significant hindsight effect in nonobviousness determinations.[35] The study found the magnitude of the hindsight bias in patent decisions to be greater than that in other legal judgments.[36] If not ameliorated, the validity of the whole nonobviousness

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[32] Baruch Fischoff, *For Those Condemned to Study the Past: Heuristics and Biases* in *Hindsight, in Judgment Under Uncertainty: Heuristics and Biases* 335 (Kahneman et al. eds., 1982).

[33] *Id.* at 341.

[34] *Id.*; *see also Graham v. Conner*, 490 U.S. 386, 396-97 (1989) (cautioning against the "20/20 vision of hindsight" when determining whether an officer used reasonable force); *Strickland v. Washington*, 466 U.S. 668, 689 (1984) (discussing the "distorting effects hindsight" when determining ineffective assistance of counsel).

[35] *See* Gregory Mandel, *Patently Non-Obvious: Empirical Demonstration that the Hindsight Bias Renders Patent Decisions Irrational*, 67 Ohio St. L.J. ___ (forthcoming 2006), available at http://ssrn.com/abstract=871684, at 14-16.

[36] *See id.* at 16 (reporting that an average of 39% of mock jurors shifted their decisions concerning nonobviousness when presented with the invention's existence).

inquiry—and thus the ultimate effectiveness of the patent system—is compromised by the hindsight bias.

While providing patent protection for obvious inventions is harmful to technological innovation, so too is the denial of protection for non-obvious inventions. Patent protection is needed to encourage the production of inventions, encourage their disclosure to the public, and foster their commercialization and exploitation for the greater public good. *See Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 146-47, 151-52 (1989). The hindsight bias can affect this incentive structure by raising the requirement for patent protection too high and denying exclusivity for those very inventions the patent system wishes to foster. Left unaddressed, the hindsight bias could prevent the patent law from fulfilling its constitutional mandate—to "promote the Progress of . . . useful Arts." U.S. Const. Art. I, § 8, cl. 8. *See also Graham*, 383 U.S. at 36.

2. The TSM analysis is constructed squarely to meet this goal. This approach requires a fact-finder to evaluate the technological context of the invention, through the eyes of the 'person having ordinary skill in the art.' For it is only with this careful focus on the contemporaneous information available to the inventor that a decision-maker can determine whether the invention was actually obvious in light of the state of the art at the time the invention was achieved, not that the invention merely appears obvious in hindsight.[37] TSM forces the decision-maker to ground in actual evidence an initial conclusion that may have been prejudiced by the hindsight bias.[38] If there is no such information indicating that the invention would have been created in the absence of

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[37] *See In re Kahn*, 441 F.3d 977, 986 (Fed. Cir. 2006).

[38] *See Alza Corp. v. Mylan Labs., Inc.*, No. 06-1019 (Fed. Cir. Sept. 6, 2006) (noting that TSM requires more than "mere speculation or conjecture" to prove obviousness).

non-obvious insight, then no TSM is found and the invention is properly held non-obvious. TSM thus provides an objective check against even the unconscious application of hindsight.[39]

3. In sharp contrast to TSM, the alternative tests presented by Petitioners and supporting amici invite hindsight and would thus increase the possibility of erroneous obvious determinations.

The first proposed alternative is to look "to whether a person having ordinary skill in the art would have been *capable* of adapting extant technology to achieve a desired result." Brief of Petitioner, at 16 (emphasis in original).[40] A test that looks only at capability suffers tremendous hindsight problems. Indeed, this analysis mandates that the decision-maker use the completed invention as an intellectual roadmap, simply asking whether it could have been made. This is, of course, the essence of hindsight—an assumption that a person of ordinary skill at the time of invention would have known what to target: the completed invention.

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[39] Another recent study by Professor Gregory Mandel found the hindsight bias is so strong that even TSM may be unable to fully mitigate its effects in all cases. *See* Gregory Mandel, *Patently Non-Obvious II: Experimental Study on the Hindsight Issue before the Supreme Court*, *supra*, at 15. TSM may do more to reduce the effects of hindsight bias in complex technology cases. *Id.* at 32. Recent theoretical and empirical work supports this claim. *See* Christopher A. Cotropia, *Patent Law Viewed Through an Evidentiary Lens: The "Suggestion Test" as a Rule of Evidence*, 2006 BYU L. REV. ___ (forthcoming 2006), available at http://ssrn.com/abstract=893965, at 64; Sean M. McEldowney, *New Insights on the "Death" of Obviousness: An Empirical Study of District Court Obviousness Opinions*, 2006 Stan. Tech. L. Rev. 4, ¶ 41. But even if the TSM test is not perfect, it is better than the alternatives proposed in this case.

[40] The United States supports a similar approach. Br. of U.S., at 17.

Another proposed alternative supports "[a] robust inquiry into the level of ordinary skill in the art."[41] We agree that such an inquiry is appropriate. But it is properly the beginning of the inquiry, not the end. Ending the inquiry with the level of skill in the art invites hindsight for the same reasons as the "capable of" test: it focuses only on what the person of ordinary skill *can* do, not what that person was reasonably likely to do. Again, if there is no required factual finding as to whether this person would have been motivated to create the invention, the hindsight bias (via the knowledge that the invention was actually made) will ensure that many significant inventions will be erroneously found obvious.

A third proposed alternative is to create a presumption based solely on a combination of prior art that a TSM is met, placing the burden of establishing that there is no TSM on the patentee. Although appearing to retain the analysis, this recommendation would seriously limit TSM's hindsight-combating capability, by relegating the analysis to a secondary role, validating hindsight analysis, and forcing the patentee (in contravention of the Patent Act, *see* 35 U.S.C. § 282) to refute an irrational, counter-factual conclusion. Further, this approach will likely skew the obviousness analysis in favor of those with significant resources to the detriment of smaller companies and individual inventors: where an exhaustive (and expensive) prior art search is enough to create a presumption of obviousness, regardless of the understanding of a person of ordinary skill in the art, then the well-resourced will have a clear path to the invalidation of competitors', especially smaller competitors', patents.

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[41] This is the proposal offered by the Intellectual Property Law Professors. *See* Br. of Intell. Prop. L. Prof., at 25-27.

B. In Contrast to the Proposed Alternatives, TSM Provides Some Structure and Certainty to a Difficult Inquiry

This Court has emphasized Congress's goal of creating a uniform and definite test for patentability. *See Dann v. Johnston*, 425 U.S. 219, 225-26 (1976) ("[I]t was only in 1952 that Congress, in the interest of 'uniformity and definiteness,' articulated the requirement in a statute." (quoting S.Rep. No. 82-1979, at 6 (1952); H.R. Rep. No. 82-1923, at 7 (1952))). TSM better addresses these goals than the alternatives offered by Petitioners and some amici.

1. The nonobviousness inquiry is inherently a challenging one. The absolute standard is difficult to articulate, as Thomas Jefferson recognized over two centuries ago. *See Graham*, 383 U.S. at 11 ("Jefferson saw clearly the difficulty in 'drawing a line between the things which are worth to the public the embarrassment of an exclusive patent and those which are not.'"). The analysis is also highly factual, focusing on technical questions that like minds could differ on as to their "correct" answer. *See id.* at 18 (noting that "[w]hat is obvious is not a question upon which there is likely to be uniformity of thought in every given factual context").

Congress and this Court have recognized this challenge and have sought to inject some certainty and definiteness into nonobviousness. Section 103 was adopted to have a "stabilizing effect and minimize great departures" in this area of law. S. Rep. No. 82-1979, at 6 (1952); H. Rep. No. 82-1923, at 7 (1952). This Court in *Graham* sought to create a "more practical test of patentability" that would "result in that uniformity and definiteness which Congress called for in the 1952 Act." *Graham*, 383 U.S. at 18. Having a well-defined and reproducible test is beneficial for a variety of reasons. It ensures that, whatever specific standard is adopted for nonobviousness, there is a higher likelihood that

the standard will be correctly and consistently used by courts and the Patent Office. Decisions by district courts and the Patent Office, in turn, will be less likely to be disturbed by the Federal Circuit. In addition, parties outside the litigation and patent application context would be able to correctly apply the nonobviousness inquiry to evaluate potential licensing arrangements, values of companies based on patent holdings or exposure, and litigation threats. Certainty and predictability of what is and is not patentable protects "the delicate balance the law attempts to maintain between inventors, who rely on the promise of the law to bring the invention forth, and the public, which should be encouraged to pursue innovations, creations, and new ideas beyond the inventor's exclusive rights." *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 731 (2002) (citing *Bonito Boats*, 489 U.S. at 150). Being able to correctly determine what is and is not protected "is essential to promote progress, because, it enables efficient investment in innovation." *Festo*, 535 U.S. at 730-31.

2. The structure of TSM, while by no means creating absolute certainty, introduces at least some predictability into the nonobviousness inquiry. The very structure that reduces hindsight bias also gives the inquiry definiteness.[42] TSM articulates a more identifiable target for the decision-maker—a teaching, suggestion, or motivation at the time of the invention. The decision-maker is not merely told to determine, faced with what is in the prior art and an understanding of the skill in the art, whether the invention is obvious. Instead, TSM provides the decision-maker a more detailed definition of what is "obvious" in light of the identified *Graham* factors. TSM also makes the inquiry

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[42] *See* F. Scott Kieff, *The Case for Registering Patents and the Law and Economics of Present Patent-Obtaining Rules*, 45 B.C. L. Rev. 55, 89-93 (2003) (describing TSM as an "objective and practical framework").

more definite as compared to alternatives by establishing more understandable categories under which a decision-maker can find a teaching, suggestion, or motivation: the explicit and implicit teachings of the art, the knowledge of a person having ordinary skill, and the nature of the problem,. As a result, the reasoning in administrative decisions and judicial opinions using TSM are easier to understand and review than those made under more amorphous standards. *See Graham*, 383 U.S. at 18-19 (noting that one goal of § 103 is to "bring about a closer concurrence between administrative and judicial precedent").

Recent empirical studies confirm that TSM helps provide some predictability to an inherently complex doctrine. A study looking at fifteen years of Federal Circuit nonobviousness jurisprudence, from 1990-2005, found a "remarkably stable" rate of reversal or vacation of district court opinions.[43] The study also found that the rate of reversal of the Patent Office has declined, indicating even greater uniformity between the Federal Circuit and the Patent Office.[44] Another study, looking at four years of Federal Circuit nonobviousness jurisprudence, from 2002-2005, found that TSM resulted in vacating of summary judgment on issue of nonobviousness only 17.07-percent of the time.[45]

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[43] *See* Lee Petherbridge and R. Polk Wagner, *The Federal Circuit and Patentability: An Empirical Assessment of the Law of Obviousness.* 85 Tex. L. Rev. __ (forthcoming 2007) (Aug. 18, 2006), available at http://ssrn.com/abstract=923306, at 34, 45.

[44] *Id.* at 39-41, 45.

[45] *See* Christopher A. Cotropia, *Nonobviousness and the Federal Circuit: An Empirical Analysis of Recent Case Law*, 82 Notre Dame L. Rev. __ (forthcoming 2007), available at http://ssrn.com/abstract=933192, at 39.

These studies give a more complete picture of the stability created by TSM then the specific case before the court. Admittedly, TSM is far from perfectly certain and predictable. However, TSM is clearly

3. The alternative tests mentioned above do the opposite, introducing more uncertainty into the nonobviousness analysis. As a result, they fail to minimize errors in the nonobviousness analysis.

The proposed alternatives that focus solely on "[a] robust inquiry into the level of ordinary skill in the art"[46] create uncertainty because they fail to instruct the decision-maker as to what they should do with this information. Once the level of skill is ascertained, no matter how robustly constructed, there must still be a determination as to whether the invention would have been obvious to this person at the time the invention was made. *See* 35 U.S.C. § 103. Unlike the TSM analysis, this proposed alternative provides no guidance on how to make this determination, and thus increases the likelihood of errors and divergent outcomes.

An additional proposed alternative looks at whether the invention "could have been made within a reasonable period of time and within reasonable budgetary constraints."[47] Not only does this proposal fail to even address the hindsight problem, but the test is also entirely indefinite and could not be applied with consistency. The institution of a "reasonable" standard for such difficult questions would provide no direction to district courts, the Patent Office, or private parties. The test also requires a complex policy determination that most actors would be incapable of making on a case-by-case basis due to lack of information or expertise. One of the real advantages of TSM is that private parties at least have some chance to predict outcomes on issues of nonobviousness—because it focuses the inquiry on

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structured to generate some certainty in this area, and the empirical data supports this claim.

[46] *See* Br. of Intell. Prop. L. Prof., at 25-27.

[47] This is the test offered by the Economists and Legal Historians. *See* Br. of Economists & Legal Historians, at 17.

actual facts extrinsic to the judicial process rather than ad hoc subjective determinations by non-technical judges.[48]

CONCLUSION

For the reasons set forth above, we suggest that the Court clarify, but retain, the well-established "teaching, suggestion, or motivation to combine" analysis for obviousness under section 103 of the Patent Act.

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[48] *See* F. Scott Kieff, *How Ordinary Judges and Juries Decide the Seemingly Complex Technological Questions of Patentability over the Prior Art, in Perspectives on Properties of the Human Genome Project* 481-82 (Kieff ed., Academic Press 2003).

APPENDIX

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